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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,771	09/20/2000	Edward Joseph Urankar	7797XMQ	8740

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EXAMINER

COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
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1771

15

DATE MAILED: 05/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/665,771

Applicant(s)

URANKAR ET AL.

Examiner

Elizabeth M Cole

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 10-15, 20, 21, 26-28, 30, 31, 34 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-15, 20, 21, 26-28, 30, 31, 34 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1771

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 10-12, 13-15, 26-28, 31-32 and 36 are rejected 35 U.S.C. 103(a) as obvious over WO 99/32060 to Rhim et al in view of Hollenberg et al, U.S. Patent No. 5,779,860 and Herron et al, U.S. Patent No. 5,137,537. Rhim et al discloses a thin until wet structure comprising a compressed web of cellulosic fibers. The web may be bonded with a temporary bonding agent such as polyvinyl alcohol. See page 12, line 25 - page 13, line 7. The temporary bonding means may also comprise hydrogen bonds. See 9, lines 22-26. The structure has a dry density of 0.3 g/cc and is disclosed as expanding rapidly to greater than 80% of its uncompressed thickness. See abstract. The web may further comprise non-cellulosic fibers such as conjugate fibers, such as polyester fibers. See page 11, lines 9-14. Although the claim recites that the fibrous component "consists of" a blend of crosslinked cellulosic fibers and high surface area cellulosic fibers, the claim also employs the transitional phrase "comprising" immediately after the preamble. Therefore, while the fibrous component recited is limited by the transitional phrase "consisting of" the use of the open "comprising" at the beginning of the claim opens the claim to the inclusion of additional fibrous components, such as the non-cellulosic fibers of Rhim. Therefore, although Rhim et al does not disclose the expanded wet density, CDH or expansion rate, since Rhim et al does disclose the same structure which employs the same materials and has

Art Unit: 1771

the same beginning dry density, presumably the Rhim et al materials would inherently possess the claimed expanded wet density, CDH and expansion rate, or in the alternative, it would have been obvious to one of ordinary skill in the art to have optimized the web so that it expanded at the desired rate and had the claimed wet density and CDH in order to optimize the speed and ability of the material to absorb liquids. Rhim et al differs from the claimed invention because Rhim et al does not disclose employing a wet strength binder. Hollenberg et al discloses a material comprising bonded cellulosic fibers. The fibrous material is absorbent, may be compressed so that it is quite thin when dry and then expands when wet. Hollenberg et al discloses that wet strength resins such as polyamide-epichlorhydrin resins are useful as bonding resins for the cellulosic fibers in order to impart resilience to the structure when wet. See col. 4, lines 35-65. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the wet strength resins disclosed by Hollenberg et al in order to enhance the resilience of the Rhim et al material when it is wet.

Rhim et al discloses a thin until wet structure as set forth above. Rhim et al also discloses a method of making a thin until wet structure comprising the steps of providing cellulosic fibers to form a structure, compressing the fibers and treating the fibers with a temporary binder such as polyvinyl alcohol. As set forth above, Hollenberg et al provides a motivation to include the step of applying a wet strength resin to the cellulosic fibers. Rhim et al does not teach employing cross-linked fibers. Herron et al discloses that employing cross-linked fibers in resilient, expandable cellulosic absorbent materials enhances the absorbency of the material. Therefore, it

Art Unit: 1771

would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed crosslinked fibers to form the material of Rhim et al. One of ordinary skill in the art at the time the invention was made would have been motivated to employ crosslinked fibers by the teaching of Herron that crosslinked fibers enhance the absorbency of the material.

3. Claims 20-21, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhim et al. Patent No. 5,800,41 in view of Hollenberg et al and Herron et al as set forth above, and further in view of Seger et al, U.S. Patent NO. 5,800,416. Rhim et al discloses a thin until wet structure as set forth above. Rhim et al differs from the claimed invention because Rhim et al does not disclose employing high surface area fibers such as crill. Seger et al teaches that incorporating high surface fibers such as crill enhance the absorbency of absorbent materials by providing capillary pressure to the fluid absorbent member. See col. 7, lines 18-46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed high surface area fibers as taught by Seger et al in order to enhance the absorbency of the material of Rhim et al.

4. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhim et al in view of Hollenberg et al and Herron et al as set forth above, and further in view of Lippert et al, U.S. Patent No. 4,861,652. Rhim et al discloses a thin until wet structure as set forth above. Rhim et al differs from the claimed invention because Rhim et al does not disclose performing a softening treatment on the absorbent article. Lippert et al teaches performing softening treatments on absorbent articles in order to enhance the softness of the material to enhance its conformability.

Art Unit: 1771

See col.8, line 19 - col. 13, line 9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have performed softening treatments on the material of Rhim et al in order to enhance the overall conformability of the article.

5. Applicant's arguments filed 9/5/02 have been fully considered but they are not persuasive. Applicant argues that application of the wet strength resins of Hollenberg to the structure of Rhim would cause the Rhim structure to collapse because the fibers of Rhim are bonded by hydrogen bonding only. However, Rhim teaches that other binder such as powder binders, moisture triggerable binders and fibrous binders may be employed instead of hydrogen bonding. Additionally, it is noted that the Rhim structure is disclosed as expanding when wet rather than collapsing as argued by applicant, (Rhim expands rapidly to greater than 80% of its uncompressed thickness when wet).

Applicant argues that determining conditions for treating the Rhim structure so as to incorporate a wet strength resin would not have been obvious because the addition of the wet strength resin would have made the Rhim structure collapse. However, as set forth above, it has not been established that treating the Rhim material would in fact cause it to collapse because Rhim comprises other bonding means including powder binders and fiber binders. Hollenberg et al is also concerned with forming a dense structure which expands when wetted. Thus, it is not seen that treatment with a wet strength resin as taught by Hollenberg would cause the Rhim structure to collapse. Further, Hollenberg teaches that the wet strength agents may be applied to the web by spraying. See col. 5, lines 40-42. Rhim teaches that as long as moisture is kept to

Art Unit: 1771

about 10% or below, binders may be applied to the compressed structure without disrupting the hydrogen bonding, and thus making the structure expand prematurely. See page 9, lines 22-24. Therefore, one of ordinary skill would have been able to apply the wet strength resins of Hollenberg to the Rhim structure without destroying the hydrogen bonding of the Rhim structure by making sure that the spray application did not provide too much moisture to the compressed structure.

With regard to the methods by which the Rhim density is measured, even if the methods by which the density is measured is different, since the structure is the same, the Rhim material would presumably inherently possess the claimed density, etc.

With regard to the argument that Hollenberg teaches calendaring while Rhim employs hydrogen bonding, the rejection does not require that the method of making the Hollenberg material be used to form the Rhim structure, but rather only requires that the Hollenberg resins be included in the Rhim structure. With regard to the motivation to combine the Rhim, Hollenberg and Herron references, these are set forth in the office action above. The motivation to include the Hollenberg wet strength resins is that this would enhance the wet strength of the Rhim material, while the inclusion of the Herron fibers would enhance the absorbency of the Rhim article.

With regard to the use of the transitional phrase “consisting of” to modify the fibrous component of the claimed material, it is noted the “open” language “comprising” is used immediately after the preamble of the claim. Thus, the limitation “consisting of” modified the

Art Unit: 1771

claimed fibrous component, but the use of the open language allows that other fibrous components may be incorporated into the Rhim material.

With regard to the rejection further in view of Seger et al and Lippert et al, Applicant's arguments are addressed above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (703) 308-0037. The examiner may be reached between 6:30 AM and 5:00 PM Monday through Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (703) 308-2414.

Inquiries of a general nature may be directed to the Group Receptionist whose telephone number is (703) 308-0661.

The fax number for official faxes is (703) 872-9310. The fax number for official after final faxes is (703) 872-9311. The fax number for unofficial faxes is (703) 305-5436.



Elizabeth M. Cole  
Primary Examiner  
Art Unit 1771

e.m.c  
May 12, 2003